REMARKS

Claims 2-6 are all the claims pending in the application. By and through this amendment, claim 1 is canceled.

I. Specification Objection

The Examiner has objected to the specification as containing a spelling error specifically listed in paragraph 4 of the Office Action dated February 26, 2002. Applicant has corrected the spelling error and accordingly requests the Examiner to reconsider and withdraw the objection to the specification.

The Examiner has objected to the abstract of the disclosure for containing more than 150 words. Further, the Examiner has objected to the abstract as being more than one paragraph. Applicant has amended the abstract and respectfully requests that the Examiner reconsider and withdraw the objection to the abstract.

II. Double Patenting Rejections

Claim 1 stands provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 1 of co-pending U.S. Application No. 09/764,316. Additionally, claim 1 stands provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 1 of co-pending U.S. Application No. 09/764,139. Applicant has cancelled claim 1 in the present application. Accordingly, Applicant submits that this rejection is now moot.

Claims 4-6 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-5 of co-pending U.S. Application No. 09/764,139. Additionally, claims 4-6 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-5 of co-pending U.S. Application

No. 09/764,316. Further, claims 1-6 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-3 of co-pending U.S. Application No. 09/511,898, and finally, claims 1-6 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 3-16 of co-pending U.S. Application No. 09/129,883. Applicant submits herewith a terminal disclaimer which disclaims the terminal part of these co-pending applications. As a result, Applicant respectfully requests that the rejection of claims 2-6 be reconsidered and withdrawn.

III. Claim Rejections - 35 U.S.C. § 103

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamagishi et al (U.S. Patent No. 5,695,413) in view of Yamagishi et al (U.S. Patent No. 5,779,563) and Official Notice taken by the Examiner. Applicant traverses the rejections for at least the reasons discussed below.

To establish a *prima facie* case of obviousness the Examiner must show that the prior art references, when combined, teach or suggest all of the claim limitations. See MPEP § 2143. Applicant respectfully submits that the references cited above by the Examiner fail to teach or suggest all of the claim limitations as set forth in the present application. Specifically, the references cited by the Examiner fail to teach or disclose a relationship between the V_R and the product of the Shore D hardness of the inner and outer layer, and the distortion of the core. More specifically, the references fail to teach the product of Shore D hardness of inner and outer cover layers being 2,500 to less than 3,000 while the V_R value is 0.70 to 1%, as recited in claim 4.

As acknowledged by the Examiner in the pending office action, Yamagishi '413 fails to teach or disclose dimples. Accordingly, Yamagishi cannot possibly teach the relationship between the V_R and the product of the Shore D hardness of the inner and outer layer.

Yamagishi '563 discloses a plurality of dimples as shown in Figure 3 and summarized in the table below.

	Layers of balls	Core hardness (100 kg)	Inner cover		Outer cover		Product * of hardness	Dimple Types	Dimple Types	V_R**
			type	Shore D	Type	Shore D				
Ex 1	3P	2.2 mm	a	40	A	45	1800	I	3 types	1.014
Ex 2	3P	2.2 mm	a	40	A	45	1800	II	3 types	0.996
Ex 3	3P	2.6 mm	a	40	B	53	2120	I	3 types	1.014
Ex 4	3P	3.3 mm	b	65	B	53	3445	II	3 types	0.996
CE 1	2P	2.5 mm	--	--	C	55	--	I	3 types	1.014
CE 2	3P	2.2 mm	a	40	A	45	1800	III	2 types	0.67
CE 3	3P	4 mm	a	40	D	65	2600	I	3 types	1.014

*Product of hardness signifies the product of Shore D hardness of the inner and outer layers. **Calculated V_R value based on the data of Table 3 of the cited reference.

As shown in the Table above, only Comparative Example 3 teaches a cover hardness product that is 2,500 to less than 3,000. However, the corresponding V_R value is greater than 1% and thus outside of the claimed range of 0.7 to 1%. The Examiner relies on the V_0 values of Yamagishi '563 to teach the claimed V_R values. However, V_0 values are not the same thing as V_R values. As explained in the specification, the V_0 value of the golf ball is "the volume of one dimple space defined below a plane circumscribed by the dimple edge divided by the volume of a cylinder whose bottom is the plane and whose height is the maximum depth of the dimple," while the V_R value is "a proportion of the total of the volumes of dimple spaces each defined below a plane circumscribed by the dimple edge to the overall volume of a phantom sphere given

on the assumption that the golf ball surface is free of dimples has the following value." Said differently, V_0 gives a volume ratio of one dimple to an imaginary cylinder volume while V_R gives a proportion of the total dimple volumes against an imaginary golf ball volume. Here, the Examiner is incorrectly comparing these two values as if they are the same, when in actuality V_0 and V_R represent two entirely different concepts. Therefore, since neither Yamagishi reference teaches or discloses the relationship between the V_R and the product of the Shore D hardness of the inner and outer layer, Applicant submits that the cited references fail to teach all of the limitations of the claims.

Furthermore, the Examiner bears the burden of establishing that there is some suggestion or motivation, in either the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. This burden can only be satisfied by an objective teaching in the prior art or by cogent reasoning that the knowledge is available to one of ordinary skill in the art. See *In re Lalu*, 747 F.2d 703, 223 U.S.P.Q. 1257 (Fed. Cir. 1984). Here, the Examiner makes a bald, unsupported conclusion that it would have been obvious to combine the Yamagishi references "in order to utilize a dimple pattern available in the market place to improve flying distance, controllability, straight travel and roll." The Examiner has not relied on or identified any teachings within the references themselves which would suggest the combination of these two references. The Examiner has not indicated any other motivation to combine expect for a broad conclusory statement. Broad conclusory statements regarding the teaching of references, alone, are not evidence, and do not, alone, provide motivation to modify or combine two references. See *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1372 (Fed. Cir. 2000) (Emphasis added).

Accordingly, Applicant submits that the Examiner has failed to provide the required motivation or suggestion to combine the references.

In addition, the total number of the dimples for Types I, II and III is just 360, which is lower than the claimed number of 370 to 450. In an attempt to cure this deficient teaching, the Examiner takes OFFICIAL NOTICE that one skilled in the art would have been motivated to have any number of dimples such as 370 to 450, for the purpose of routine optimization for obtaining the desired flight performance. However, an Examiner may not rely on official notice, or judicial notice, or a mere statement of obviousness at an exact point where patentable novelty is argued, but must come forward with pertinent prior art. See *Ex parte Cady*, 148 U.S.P.Q. 162 (Bd. of App. 1965). Here one of the points of novelty is providing the number of dimples being 370 to 450. The Examiner has not cited, nor has the Applicant identified, any prior art which suggests or teaches this aspects of the present invention.

Moreover, the number of the dimples is merely one of the various factors for determining flight performance. It is not always true that when the number of the dimples is larger, the level of the flight performance is higher. The flight performance is related to not only number of the dimples but also other factors such as the hardness of the both of inner and outer cover layers and the total dimple volume. If the number of the dimple is altered to 370-450, the dimple volume ratio V_R value varies, which would influence the flight performance. When the number of the dimples of Yamagishi '563 is altered to 370-450, the altered ball may be inferior to the ball before altering dimple number. At the very least, the Examiner cannot simply conclude that it would be obvious to use more dimples since the V_R values in Yamagishi would alter if the Examiner adjusted the number of dimples of Yamagishi '563 to 370-450. This modification

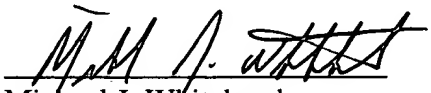
would improperly render the Yamagishi '563 invention unsatisfactory for its intended purpose, and therefore cannot provide the necessary motivation to combine. See *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In view of the above remarks, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness. As a result, Applicant respectfully requests that the rejections of claims 2-6 under 35 U.S.C. § 103(a) be reconsidered and withdrawn

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, paragraph 1:

CROSS REFERRENCE TO RELATED APPLICATION

This application is an application files under 35 U.S.C. § 111(a) claiming benefit pursuant to 35 U.S.C. §10 119(e)(i) of the filing date of the ~~Provincial~~ Provisional Application 60/058,563 filed on September 11, 1997 pursuant to 35 U.S.C. § 111(b).

IN THE CLAIMS:

Claim 1 is canceled.

IN THE ABSTRACT OF DISCLOSURE:

The abstract is changed as follows:

~~A multi-piece solid golf ball is provided which is improved in spin, feeling, and durability, prevents its trajectory from rising or dropping, and offers an increased flight distance.~~

A multi-piece solid golf ball comprising a solid core and a cover of two inner and outer layers surrounding the core. ~~wherein the~~The outer cover layer has a surface formed with a plurality of dimples ~~is characterized in~~such that ~~a~~ the product of the Shore D hardness of the inner cover layer ~~multiplied by the Shore D hardness of the~~and the outer cover layer, ~~and~~ a proportion V_R (%) of the total of the volumes of dimple, and the distortion of the core have a predetermined relationship. ~~spaces each defined below a plane circumscribed by the dimple edge~~

~~to the overall volume of a phantom sphere given on the assumption that the golf ball surface is free of dimples satisfy any one of the following combinations (1) to (5):~~

~~(1) the product of Shore D hardnesses of inner and outer cover layers: 1,500 to less than 2,000~~

~~V_R: 0.8 to 1.1%~~

~~(2) the product of Shore D hardnesses of inner and outer cover layers: 2,000 to less than 2,500~~

~~V_R: 0.75 to 1.05%~~

~~(3) the product of Shore D hardnesses of inner and outer cover layers: 2,500 to less than 3,000~~

~~V_R: 0.7 to 1%~~

~~(4) the product of Shore D hardnesses of inner and outer cover layers: 3,000 to less than 3,500~~

~~V_R: 0.65 to 0.95%~~

~~(5) the product of Shore D hardnesses of inner and outer cover layers: 3,500 to 4,000~~

~~V_R: 0.6 to 0.9%,~~

~~and the~~ The dimples include at least three types of dimples which are different in at least one of a diameter, a depth, and a value V_0 which is the volume of one dimple space defined below a plane circumscribed by the dimple edge divided by the volume of a cylinder whose bottom is the plane and whose height is the maximum depth of the dimple from the bottom.